A Rare Case of Invasive Lobular Breast Cancer in a Male

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Abstract

Male breast cancer is rare, comprising 1% of all breast cancers and 1% of all cancers in men. Unlike in women, in men invasive lobular breast cancer (ILC) is very uncommon, making up 1% of all male breast cancers and 0.01% of all cancers in men. In the past, the low incidence of lobular breast cancer in men was thought to be due to a lack of lobular tissue in the male breast. However, the classical understanding of breast cancer development has been reexamined in recent years in the light of new evidence from molecular genetics studies. We present a case of a man with invasive lobular breast cancer. This case supports, and is explained by, an emerging understanding of breast cancer molecular evolution.

Introduction

Male breast cancer is a rare condition, comprising 1% of all breast cancers and 1% of all cancers in males. Principles of diagnosis, treatment and prognosis are similar for male and female patients, although detection tends to occur later in males than in females. Presumably because the male breast usually contains only ductal tissue and no lobules, invasive ductal carcinoma (IDC) is the most common cause of male breast cancer. Invasive lobular carcinoma (ILC) is present in only 1% of cases. Emerging genetic evidence may support a mechanism for the development of ILC in the male breast. We present a case of invasive lobular carcinoma of the breast in a male patient.

Case Report(s)

During an admission for the work-up and treatment of syncope and anemia a 69 year old male was found to have a palpable lesion in the right breast, deep to the nipple. No other masses were noted and the axilla was clinically normal. No predisposing factors for the development of breast cancer were present, including testicular abnormalities, liver cirrhosis, Klinefelter’s syndrome or exogenous administration of estrogens or anti-androgens. He had no family history of breast or gastric cancer in male or female relatives.

A fine needle aspirate of the mass was performed which was highly suspicious for malignancy. As such, a right modified radical mastectomy and axillary node dissection was performed. A full metastatic work-up was negative.

Pathologic examination of the mass revealed an invasive lobular carcinoma. Tumor cells exhibited a classic single-file morphology and there was loss of expression of E-cadherin. Staining for estrogen (ER) and progesterone receptors (PR) was positive, but was negative for over expression of HER-2/neu. One of twelve lymph nodes obtained was also positive for invasive lobular carcinoma.

The patient recovered well from surgery and was given a course of adjuvant systemic therapy with an aromatase inhibitor. Given his poor functional status radiation therapy and traditional chemotherapeutic modalities were not recommended. At the time of submission for publication, approximately 2 years after diagnosis, he remains disease free and living independently. Informed consent for publication of this case report was obtained from the patient.

Discussion

Despite the usual absence of lobules in male breast tissue, males may still develop lobular carcinomas. The histologic appearance is similar to that seen in females. Tumor cells are seen in a single-file pattern. There tends to be a loss of expression of the adhesion molecule E-cadherin, positive ER and PR staining and negative staining for HER-2/neu. The exact pathogenesis of this disease is not entirely understood. In the female breast, the same multipotential stem cell gives rise to both ductal and lobular tissue types. It has been theorized that this may allow for the transformation of normal ductal cells into ILC. Molecular studies have identified a multi-step pathway from normal breast tissue to most subtypes of breast cancer. These findings have blurred the boundaries between the lobular and ductal carcinoma lineages. Such studies have lead to a hypothesized connection between recognized precursors of ductal carcinoma and invasive lobular carcinoma. One proposed pathway involves the development of ductal carcinoma in-situ (DCIS) that may then transform to lobular...
carcinoma in-situ and then ILC. If this theoretical evolution of normal tissue into ILC via DCIS can be demonstrated it may explain the occurrence of ILC in males. As widespread screening programs are unavailable detection of male breast cancer requires a thorough physical exam. Imaging such as mammography has been employed but is of limited value and diagnosis, as in women, depends on fine needle aspiration or core / excisional biopsy. Treatment of male breast cancer remains controversial. The low incidence of ILC in men likely explains the lack of studies focusing on the treatment of this tumor type. In general, many principles are similar to that of female breast cancer. Surgical treatment consists of mastectomy, or if possible, lumpectomy, combined with a surgical evaluation of the ipsilateral axilla. The standard approach is axillary dissection, however recently sentinel lymph node biopsy has emerged as a potential therapy. The use of radiation therapy in men with breast cancer has not been standardized, however some authors have suggested its use for tumors >1cm and/or with >1 involved lymph node, or in any patients receiving lumpectomy. Standard chemotherapy regimens are employed for suitable patients with stage II and III disease, with anthracyclines becoming more commonly used than the CMF (cyclophosphamide, methotrexate, fluorouracil) regimen. Hormonal therapy may also be employed, including tamoxifen for ER+ tumors as well as therapies aimed at reducing the production of estrogens, such as aromatase inhibitors, GnRH agonists and orchiectomy.

Authors contribution(s)

ST reviewed the literature and prepared the manuscript
JH reviewed the case and assisted with manuscript preparation

References

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